

III. Claim Rejections Under 35 U.S.C. §102 and §103

Claims 1-6, 9, 14 and 15 are rejected under 35 U.S.C. §102(b) as being anticipated by Leone et al. (U.S. Patent No. 5,793,909); and claim 13 is rejected under 35 U.S.C. §103(a) over Leone. The rejections are respectfully traversed.

Leone fails to disclose a wavelength multiplexing on-chip optical interconnection circuit having a plurality of circuit blocks provided on one integrated circuit chip, and having an optical waveguide provided on the integrated circuit chip, as generally recited in independent claim 1.

Leone fails to disclose all of the features recited in independent claim 1 because Leone does not disclose an on-chip optical interconnection circuit. Rather, Leone discloses interconnection modules 16a and 18b installed on shelves 12 and 14, respectively. See Leone at Fig. 2 and at col. 5, lines 25-27. The interconnections of Leone are thus between shelves, and not located on an on-chip optical interconnection circuit. There is no disclosure, teaching or suggestion in Leone of interconnection modules 16a and 18b being located on a chip, and the interconnection between modules contained on different shelves is not equivalent to connections made on a chip.

Leone also fails to disclose all of the features recited in independent claim 1 because Leone does not disclose an optical waveguide provided on an integrated circuit chip. Leone's jumper fiber 52 and interconnection fabric 74 are not equivalent to optical waveguides. Furthermore, Leone's jumper fiber 52 and interconnection fabric 74 are not provided on an integrated circuit chip because they extend between shelves 12 and 14. See Leone at col. 5, lines 25-38.

With regard to dependent claims 3-5, the Office Action asserts that Figs. 2 and 3 of Leone disclose an arrangement where an optical waveguide (asserted to be jumper pair 52) is provided on a top surface of "circuit blocks" or in an arrangement that traverses or detours

around "circuit blocks." This interpretation of Leone is not supported because Figs. 2 and 3 are representative schematics, and not a disclosure of an actual arrangement of the Leone device. Accordingly, there is no disclosure in Leone of the arrangements specifically recited in dependent claims 3-5.

With regard to claim 6, the Office Action asserts that Leone discloses an LED 154 that emits a light of a predetermined wavelength into an intra-block waveguide. This interpretation of Leone is misplaced because the LED contained within LED test button 154 is simply a light within a test button, and not a light of a predetermined wavelength that is transmitted into an intra-block waveguide. See Leone at col. 7, lines 1-8. Accordingly, Leone does not disclose a wavelength multiplexing on-chip optical interconnection circuit having a light emitting element emitting a light component having a predetermined wavelength into an optical waveguide, as generally recited in dependent claim 6. Leone does not disclose, teach or suggest that test button 154, which contains an LED, is a device that emits light having a predetermined wavelength, and there is no disclosure, teaching or suggestion of the light of the LED of test button 154 being directed into an optical waveguide.

In view of the foregoing, Leone fails to disclose all of the features recited in independent claim 1, as well as the additional features recited in the dependent claims thereof. It is respectfully requested that the rejections be withdrawn.

IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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